

WHAT IS CLAIMED IS:

1. A USB-based data security device comprising:

a USB mass storage class controller connected to a  
USB-interfaced operation system for carrying out USB  
5 protocol commands issued by the operation system; and

a data protection device connecting the USB mass storage class  
controller to a data storage device, the data protection  
device comprising a write protection unit, an enciphering  
unit and a deciphering unit, the write protection unit and the  
10 enciphering unit respectively providing write protection of  
the data storage medium and enciphering data when data are  
to be written by the operation system into the data storage  
medium, the deciphering unit deciphering data from the data  
storage medium when the operation system reads the data  
15 from the data storage medium.

2. The USB-based data security device as claimed in Claim 1, wherein  
the USB mass storage class controller and the data protection device  
are incorporated in a USB-based data accessing device.

3. The USB-based data security device as claimed in Claim 2, wherein  
20 the USB-based data accessing device comprises a USB-based card  
reader.

4. The USB-based data security device as claimed in Claim 1, wherein  
the data storage medium comprises a compact flash card.

5. The USB-based data security device as claimed in Claim 1, wherein the data storage medium comprises a multi-media card.
6. The USB-based data security device as claimed in Claim 1, wherein the data storage medium comprises a memory stick.
- 5 7. The USB-based data security device as claimed in Claim 1, wherein the data storage medium comprises a smart media card.
8. The USB-based data security device as claimed in Claim 1, wherein the data storage medium comprises a security digital card.